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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,077	08/28/2003	Tatsuki Okamoto	402766/AOYAMA	7217

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EXAMINER

SHIH, THEODORE C

ART UNIT PAPER NUMBER

3735

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/650,077

Applicant(s)

OKAMOTO ET AL.

Examiner

Theodore C. Shih

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/7/05 and 8/28/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1, 2, 4-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "any place" in the last line of the claim renders the claim indefinite. It is recognized that Claim 4 and 6 limit the location of the scattering plate and light source into an "optically conjugate relationship", however the imaging plate is not claimed in the same "optically conjugate relationship" thus making the orientation of the light source, scattering plate, and imaging plate indefinite.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Referring to Claims 1 and 3, the phrase "into an eye of a viewer" improperly includes a part of a living subject (eyes) in the claimed apparatus. Referring to claims 4 and 6, the phrase "an optically conjugate relationship with a pupil of the viewer" improperly includes a part of a living subject (pupil) in the claimed apparatus. Referring to claims 5 and

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7, the phrase "a pupil" improperly includes a part of a living subject (pupil) in the claimed apparatus.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Omae et al.'849 (US Patent 5,760,849). Omae et al.'849 teaches a liquid crystal projection display device including a light source (col. 10, lines 24-25) that has a sharp light beam directionality (optically conjugate relationship with a pupil of the viewer) (col. 10, lines 44-45) focused on the pupil so that movement of the eye position would render the image darker (focused on or around a pupil of the viewer) (col. 10, lines 46-47); a scattering plate (col. 10, lines 25-26) that has an optically conjugate relationship with the pupil (see Figure 2 and ocular ring 27 where the position of the eye will be) and where the light scattered by the scattering plate becomes a planar light source (col. 10, lines 26-27) focused on or around a pupil of the viewer; a liquid crystal panel (imaging plate transmitting the light scattered by the scattering plate) (col. 10, lines 27-29); a combination of two lenses (optical unit) that allows the viewer to see magnified images (col. 10, lines 39-41); and the body (mechanism) positions the scattering plate at a location between the light source and liquid crystal panel which is

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considered to meet the limitation of "positioning the scattering plate at *any place* between the light source and liquid crystal panel" and also at "*any one of predetermined plural positions*" (see Figure 2) as contrasted with positioning at multiple places or all places.

Furthermore, Omae et al.'849 teaches a liquid crystal projection display device wherein the light source is comprised of a lamp; and red, green, and blue dichroic mirrors radiating red, green, and blue light rays (col. 15, lines 42-44).

In addition, Omae et al.'849 teaches a liquid crystal projection display device wherein the light source is electroluminescent (col. 9, lines 65-67 and col. 10, lines 1-5) and combined with the scattering plate form an electroluminescent unit (col. 9, lines 65-67 and col. 10, lines 1-5). Applicant also discloses that the light source and scattering plate may be made of a single component by using an electroluminescent (EL) element (paragraph [0068] of the disclosure).

Moreover, Omae et al.'849 teaches a liquid crystal projection display device wherein the scattering plate's horizontal dimension is longer than the vertical dimension (See Figure 3, 6, and 7). Figure 7 shows a cross-section of the liquid crystal projection display device where 42 is the scattering plate and 46 is the louver. Fig. 6 shows a perspective view of the louver used for the liquid crystal display device. From this view we can see how the horizontal dimension is longer than the vertical dimension. Therefore from Figure 7 we can correlate the louver to the scattering plate where the scattering plate also has a horizontal dimension longer than the vertical dimension.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omae et al.'849. Omae et al.'849 discloses the claimed invention but does not disclose expressly the diode radiating ultra-violet light or blue light and the scattering plate including a fluorescent material. It would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the system as taught by Omae et al.'849 with the diode radiating ultra-violet light or blue light and the scattering plate including a fluorescent material, because Applicant has not disclosed that diode radiating ultra-violet light or blue light and the scattering plate including a fluorescent material provides an advantage, is used for a particular purpose, or solve a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with light source and scattering plate as taught by Omae et al.'849, because it provides a scattered light illuminating the image plate and since it appears to be an arbitrary design consideration which fails to patentably distinguish over Omae et al.'849.

Therefore, it would have been an obvious matter of design choice to modify Omae et al.'849 to obtain the invention as specified in the claims.

***Allowable Subject Matter***

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The following is a statement of reasons for the indication of allowable subject matter: Omae et al.'849 teaches a liquid crystal projection display device including a light source (col. 10, lines 24-25) that has a sharp light beam directionality (optically conjugate relationship with a pupil of the viewer) (col. 10, lines 44-45) focused on the pupil so that movement of the eye position would render the image darker (focused on or around a pupil of the viewer) (col. 10, lines 46-47); a scattering plate (col. 10, lines 25-26) that has an optically conjugate relationship with the pupil (see Figure 2 and ocular ring 27 where the position of the eye will be) and where the light scattered by the scattering plate becomes a planar light source (col. 10, lines 26-27) focused on or around a pupil of the viewer; a liquid crystal panel (imaging plate transmitting the light scattered by the scattering plate) (col. 10, lines 27-29); a combination of two lenses (optical unit) that allows the viewer to see magnified images (col. 10, lines 39-41); the body (mechanism) positions the scattering plate at a location between the light source and liquid crystal panel; a light source that is comprised of a lamp; and red, green, and blue dichroic mirrors radiating red, green, and blue light rays (col. 15, lines 42-44); a light source that is electroluminescent (col. 9, lines 65-67 and col. 10, lines 1-5) and combined with the scattering plate form an electroluminescent unit (col. 9, lines 65-67 and col. 10, lines 1-5) and a scattering plate where the horizontal dimension is longer than the vertical dimension (See Figure 3, 6, and 7). However, none of the prior art teaches or suggests, either alone or in combination a liquid crystal projection display device including a

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mechanism that moves the scattering plate continuously between the light source and the imaging plate.

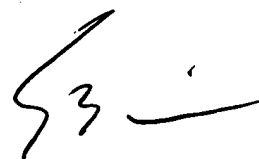
Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theodore C. Shih whose telephone number is (571) 272-7234. The examiner can normally be reached on 8:30-5:00 est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ali Imam can be reached on (571) 272-4737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ERIC F. WINAKUR  
PRIMARY EXAMINER